

86-4-3/24

**Control of Fighter Flight in Aerial Combat (Cont.)**

favorable tactical position for the attack in order to fire effectively at the bombers attacked and to maintain the initiative over them during the aerial combat. The determination of the distance from the enemy bombers to the objective to be protected by fighter-interceptors is very difficult while in flight. Therefore, the command post must inform the fighter flight commander on the flight speed, altitude, type, number, combat order, and the direction of enemy bombers in relation to the fighter flight. Before taking the initial position for the attack, the flight commander should indicate, first, the method of attack and only after that the aerial targets to be attacked by wing pilots. During the attack, the flight commander must watch the air situation attentively, in order to direct the wing pilots in the solution of the basic task. During the aerial combat, the wing pilots must keep constant visual contact with the flight commander, in order to execute certain maneuvers in accordance with the nature of the commander's operation. The successful control of

Card 3/4

LEBEDEV, D.D., prof.; PETROV, S.I., dots.; SOPHAKINA, I.M.

Pathogenesis of the "infectious heart" and rheumocarditis [with  
summary in English]. *Pediatrics* 37 no.1:32-37 Ja '59.  
(MIRA 12:1)

(TONSILLITIS, exper.

ECG data & pathogen. of rheum. heart dis. in  
puppies (Rus))

(RHEUMATIC HEART DISEASE, exper.

pathogen. after induction of tonsillitis in puppies  
(Rus))

(ELECTROCARDIOGRAPHY, exper.

eff. of tonsillitis in puppies (Rus))

3.1200

78023  
SOV/33-37-1-23/31

AUTHORS: Sopel'nikov, M. D., Baulin, I. V.

TITLE: A Spark Chronoscope for the Oscillographic Reception of Time Signals

PERIODICAL: Astronomicheskii zhurnal, 1960, Vol 37, No 1, pp 151-155 (USSR)

ABSTRACT: The use of Cesium and Ammoniac time standards requires increased accuracy in receiving time signals, say with an error of not more than 0.1 msec. The chief difficulty is industrial and atmospheric noises. Thus, even when neon or spark chronoscopes are used for registering radio signals the errors amount to from 1-2 msec. The newly introduced oscillographic method makes it possible to estimate visually the shape of the signals received and choose the most trustworthy. This method is used widely in the Irkutsk Branch of the All-Union Scientific-Research Institute of Physical and Radiotechnical Measurements (VNIIFTRI) and in the Khar'kov Institute of Measures and

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A Spark Chronoscope for the Oscillographic  
Reception of Time Signals

78023

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Measuring Instruments (KhGIMIP). The essence of the method is that signals from a receiver and marks from an auxiliary device are sent simultaneously into an oscillograph. The standard marks are supplied by a synchronous motor which operates at a frequency of 1000 Hertz and makes 10 rps. It carries a disk with four radial slits which transmit light impulses to a photocell connected with an electronic circuit and an oscillograph. This device at the Khar'kov Institute has reduced the accidental error of time signals from long-wave stations to not more than 0.5 msec, and the signals received from short-wave stations were registered with errors of the order of 0.1 msec. The authors thank foreman E. M. Klopotovskiy, who helped construct the chronoscope, and assistants of the Irkutsk Laboratory, L. N. Madeev and N. A. Tel'puknovskiy, for similar help. There are 6 figures; and 2 references, both Soviet.

Card 2/3

81848

S/033/60/037/03/020/027  
E032/E514

3.9000  
AUTHORS: Bryzzhev, L.D., Leykin, A.Ya. and Sopel'nikov, M.D.  
TITLE: A Determination of the Frequency of a Molecular Generator  
and of the Irregularities in the Earth's Rotation ✓  
PERIODICAL: Astronomicheskii zhurnal, 1960, Vol 37, Nr 3,  
pp 579-583 (USSR)  
ABSTRACT: The molecular generator employing a beam of ammonia  
molecules at the Khar'kov State Institute of Measures  
and Measuring Instruments was described by Leykin in  
Ref 3. Systematic measurements of the frequency of  
this generator were begun in February, 1958. Regular  
comparisons of its frequency in the UT-1 and UT-2  
systems of astronomical time were also carried out. The  
molecular generator in the above standard does not  
function continuously and is only "switched on" for a  
time necessary for the comparison with quartz generators.  
It was therefore necessary to have continuously running  
clocks in order to determine the frequency in the  
astronomical time system. KKh<sub>3</sub> clocks were used for  
Card 1/3 this purpose. These clocks are employed by the All-Union ✓

81848

S/033/60/037/03/020/027  
E032/E514

A Determination of the Frequency of a Molecular Generator and of the Irregularities in the Earth's Rotation

Time Service and the All-Union Scientific Research Institute for Physicotechnical and Radiotechnical Measurements who publish monthly corrections to these clocks in the bulletin "Standard Time". Moreover, daily time signals transmitted by the GBZ-10<sup>n</sup> Station (England) are also used in the determination of these corrections. These are further corrected in accordance with the data supplied by the Greenwich Observatory. The frequency of the generator in the "KKh<sub>2</sub> clocks" was daily compared with the frequency of the molecular generator. A preliminary value for the frequency of the molecular generator, based on the data supplied by the time services of the Soviet Union and Great Britain, is now reported to be  $23\,870\,129.395\text{ kc/s} \pm 0.012\text{ kc/s}$ . Data on the irregularities in the Earth's rotation in 1958 were obtained from the determination of the frequency of the molecular generator in astronomical

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81848

S/033/60/037/03/020/027  
EO32/E514

A Determination of the Frequency of a Molecular Generator and of the Irregularities in the Earth's Rotation

systems of time. It was found that the amplitude and phase of seasonal irregularities in the Earth's rotation during 1958 were practically the same as those in 1955-1956. The latter were obtained with the aid of the caesium standard. It is argued that the results obtained show that irregularities in the Earth's rotation can be determined with the aid of the molecular generator to the same accuracy as with the caesium standard.

There are 3 figures and 5 references, 2 of which are Soviet, 1 French and 2 English.

ASSOCIATION: Khar'kovskiy gosudarstvennyy in-t mer i izmeritel'nykh priborov (Khar'kov State Institute of Measures and Measuring Instruments)

SUBMITTED: October 6, 1959

Card 3/3

3.1550

S/035/62/000/003/004/053  
A001/A101

AUTHORS: Sopel'nikov, M. D. Leykin, A. Ya., Bryzzhev, L. D.

TITLE: Determination of non-uniformity in Earth's rotation by means of a molecular standard of time and frequency

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 3, 1962, 15, abstract 3A119 ("Mezhdunar. geofiz. god. Inform. byul.", 1961, no. 4, 29-32, English summary)

TEXT: The authors describe the results of determining non-uniformity in Earth's rotation by means of a molecular generator put into operation in the Time and Frequency Service of the Khar'kov State Institute of Measures and Measuring Instruments since February 1958. They present the magnitudes of irregular and seasonal variations in duration of day and give corrections for conversion from UT-1 time to UT-2 time for the period from March 1958 to March 1959.

Author's summary

[Abstracter's note: Complete translation]

Card 1/1



SOPEL'NIKOV, M.D.

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Attenuation of the swing of a pendulum at various air  
pressures. Trudy inst. Kom. stand., mer i izm. prib.  
no.58:120-127 '62. (MIRA 15:11)  
(Time clocks)

37390

S/033/62/039/002/013/014  
E032/E514

3.1550

AUTHOR: Sopel'nikov, M.D.

TITLE: Determination of the nonuniformity of astronomical time  
with the aid of a maser

PERIODICAL: Astronomicheskii zhurnal, v.39, no.2, 1962, 355-361

TEXT: As reported by L. D. Bryzzhev, A. Ya. Leykin and the author of this paper (Ref.1: Astron. zh., 37, 579, 1960) the maser frequency standard at the Khar'kov State Institute for Measures and Measuring Instruments is compared daily with the readings of a quartz clock at that Institute. In order to determine the irregularity in the rotation of the earth and to calculate the corrections necessary to convert UT-1 to UT-2, use was made of the quartz clock data in "Etalonnnoye vremya" (Standard Time Bulletin) for 1958-1960. In addition, time signals from GBR-10 and the corresponding corrections published by the Greenwich Observatory were also employed. Numerical data are reported for the various corrections due to the nonuniformity in the rotation of the earth. It was found that between March, 1958 and June, 1959 the length of day was reduced by 0.45 msec. By March, 1960 there was an increase  
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Determination of the ...

S/033/62/039/002/013/014  
EO32/E514

of 0.16 msec. A rapid seasonal variation in the length of day in 1959, reaching 1.5 msec over a period of three months, was also noted. On the other hand, between November, 1958 and May, 1959 the seasonal changes were of the order of only 0.3 msec. Corrections which can be used to convert quartz clock readings to the maser readings are given for March, 1958-March, 1960. There are 2 figures and 4 tables.

ASSOCIATION: Khar'kovskiy gos. institut mer i izmeritel'nykh priborov  
(Khar'kov State Institute for Measures and Measuring Instruments)

SUBMITTED: December 17, 1960 (initially)  
July 31, 1961 (after revision)

Card 2/2

L 8624-65 EWG(j)/EWA(k)/EWT(d)/FBD/EWT(l)/EEC(k)-2/EWG(v)/EEC(t)/T/EWP(k)/  
 EEC(b)-2/EWA(h)/EWA(m)-2 Pn-4/Po-4/Pe-5/Pq-4/Pac-4/Pf-4/Pg-4/Pae-2/Pab/  
 Pi-4/Pk-4/Pl-4 IJP(c)/ASD(a)-5/AFWL/AFETR/BSO/ESD(gs)/RAEM(a)/ESD(t)/RAEM(?)  
 ACCESSION NR: AR4038674 WG/GW : 8/0269/64/000/003/0018/0018

SOURCE: Ref. zh. Astron. Otd. vyep., Abs. 3.61.152

AUTHOR: Popel'nikov, M. D.

TITLE: Preliminary results of the use of a maser in the time service of the  
 Khar'kov State Institute of Measures and Measuring Instruments

CITED SOURCE: Tr. 15-y Astrometr. konferentsii SSSR, 1960. M.-L., AN SSSR, 1963,  
 354-356

TOPIC TAGS: maser, time service, quartz clock, earth rotation, molecular clock

TRANSLATION: It is noted that the systematic control of quartz clocks by use of a  
 maser makes it possible to introduce corrections to the readings of quartz clocks  
 in order to obtain uniform molecular time. <sup>25</sup> against whose background it is possible  
 to detect nonuniformity of the earth's rotation. A graph accompanying the text  
 shows the mean monthly values of the diurnal rates of the molecular clocks (refer-  
 ence maser + quartz clock) for the period from March 1958 through September 1960.  
 On the basis of this graph the conclusion is drawn that on the background of varia-  
 tion of the rate of the molecular clocks of the Khar'kov State Institute of Measures

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L 8624-65

ACCESSION NR: AR4038674

and Measuring Instruments, there was a gradual decrease in the length of day (from March 1958 through March 1959), constituting 0.4 msec/day during the year. The possible reason is a monotonic increase in the rate of the earth's rotation during the period mentioned. Later, up to September 1960, there were virtually no monotonic changes, but there were sharp seasonal changes in the duration of the day, attaining almost 1.5 msec (from August through October 1959). M. Ishchenko.

DATE ACQ: 17Apr64

SUB CODE: ES, EC

ENCL: 00

Card 2/3

MIKHALOVSKIY, A.G.; SOPEL'NYAK, M.M.

Preplanting treatment of clover seed with solutions of microelements.  
Sovet. Agron. 11, No.3, 70-2 '53. (MLRA 6:3)  
(CA 47 no.14:7146 '53)

1. Kiev Agr. Inst.

USKOV, A.A., red.; RZHEVSKIY, V.V., prof., doktor tekhn. nauk, red.; SOKOLOVSKIY, M.M., red.; MIKHAYLICH, I.G., red.; BUGOSLAVSKIY, Yu.K., red.; SOBITSKIY, V.V., red.; VINITSKIY, K.Ye., red.; STAKHEVICH, Ye.B., red.; KENIS, S.I., red.; MERZOK, A.S., red.; SITNIKOV, V.P., red.; SOFESHKO, N.F., red.; BLAYVAS, M.S., red.

[Studies of the All-Union Scientific and Technical Conference on improving the equipment and technology of mining minerals by the open pit method] Materialy Vsesoyuznogo nauchno-tekhnicheskogo soveshchaniya po sovershenstvovaniyu tekhniki i tekhnologii razrabotki poleznykh iskopayemykh otkrytym sposobom. Moskva, Nedra, 1965. 285 p. (MIRA 18:6)

1. Vsesoyuznoye nauchno-tekhnicheskoye soveshchaniye po sovershenstvovaniyu tekhniki i tekhnologii razrabotki poleznykh iskopayemykh otkrytym sposobom, Cherekhovo, 1964. 2. Moskovskiy institut radioelektroniki i gornoy elektromekhaniki (for Rzhavskiy). 3. Glavnyy spetsialist Gosudarstvennogo komiteta tyazhelogo, energeticheskogo i transportnogo mashinostroeniya pri Gosplane SSSR (for Bugoslavskiy).

SOJICKI, S.

More about Czechoslovakia in 1938. P. 24  
BPILOMA. (Instytut Historyczny im. Gen. Sikorskiego) London.  
No. 3, July/Sept. 1955

SOURCE: EIAL IC Vol. 5, no. 7, July 1956



S/081/62/000/024/045/052  
B106/B186

AUTHORS: Kraul, Emil, Ciapinski, Jan, Sopiela, Wacław, Sobolewski,  
Marian, Rybicki, Zbigniew

TITLE: Methods for producing a fiber from polyvinyl alcohol

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 24 (II), 1962, 953,  
abstract 24P1034 (Pol. patent 44511, June 10, 1961)

TEXT: A method is described for the production of a fiber from polyvinyl alcohol by coagulation from aqueous solutions in a bath, dehydration and simultaneous stretching of the deposited fiber, removal of part of the salt contained in the fiber by washing, drying of the fiber, thermal treatment and acetalation. The method distinguishing features of this are as follows: the spinning solution flows from the spinneret into the coagulating bath at a velocity of 12 - 13 m/min. It then follows its course at an angle of  $90^{\circ}$ . The fiber leaves the coagulating bath at 15 m/min; there is a distance of 130 - 150 cm between the exit of the spinning solution from the spinneret and the point at which the fiber changes its direction in the bath. The excess from this bath is removed

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Methods for producing a fiber from ...

S/081/62/000/024/045/052  
B106/B186

and the fiber is passed through a washing bath which consists of an aqueous solution of sodium sulfate (concentration 140 - 155 g/l). The pH value of the spinning solution and coagulating bath is adjusted to 7 as to yield a spinning solution of polyvinyl alcohol containing <0.2% by weight of ashes. The maximum moisture of the dried fiber is 3% and the maximum drying temperature is 120°C. Before it is dried the fiber ought to contain 35-37% by weight of polyvinyl alcohol, 58 - 60% by weight of water, and 5-7% by weight of salt. The temperature of the washing bath is 25 - 29°C, the washing time of the fiber is ~1 min. [Abstracter's note: Complete translation.]

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S/081/62/000/024/047/052

3134/3102

AUTHORS: Sopiela, Wacław; Myszkowski, Tadeusz; Osinowski, Witold;  
Jabkosnki, Henryk

TITLE: Method for strengthening of casein fiber

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 24(II), 1962, 957,  
abstract 24P1059 (Polish pat., no. 45355, February 14, 1962)

TEXT: The freshly-shaped fiber is first treated in a bath containing ammonium salts and then in a formalin bath. The fiber-strengthening method is characterized by the following stages: the shaped fiber is treated in free position in a bath containing 90-110 g/l  $\text{Al}_2(\text{SO}_4)_3$  for 8-10 min at 60-65°C; then it is stretched at 20-30°C for 25-35 sec in a formalin bath containing 30-32 g/l formaldehyde, 25-40 g/l  $\text{Al}_2(\text{SO}_4)_3$ , 120-150 g/l  $\text{Na}_2\text{SO}_4$ , 30-40 g/l NaCl, and 10-15 g/l  $\text{H}_2\text{SO}_4$ . After this, the fiber is treated in the same bath in free position for 1 hr, and finally also in free position at 60-70°C for 30-60 min in a bath

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Method for strengthening of ...

S/081/62/000/024/047/052  
3134/3102

containing 30-35 g/l formaldehyde, 20-25 g/l  $\text{Al}_2(\text{SO}_4)_3$ , 150-170 g/l  $\text{Na}_2\text{SO}_4$ , 30-40 g/l NaCl, and 100-105 g/l  $\text{H}_2\text{SO}_4$ . The further treatment of the fiber (washing, dressing, and drying) is carried out by the standard methods. The fiber obtained shows an increased resistance to hot water. The fiber left in water at 80°C for 1 hr does not lose its fibrous character. [Abstracter's note: Complete translation.]

Card 2/2

SOPIELA, Wacław; CYPRYK, Jerzy; MASŁOWSKI, Edward.

Stability of polyvinyl alcohol solutions used for spinning purposes. Polimery tworzą wielk 8 no.9:345-347 '63.

1. Instytut Włókien Sztucznych i Syntetycznych, Łódź.

OPITKA, Wacław; KAPCZA, Teresa; CYPRYK, Jerzy

Studies on the course of acetylation of polyvinylalcohol  
fibers with formaldehyde. Polimery tworzyw wielk 9 no.3:107-  
110 Mr '64.

1. Institute of Artificial and Synthetic Fibers, Lodz.

J. 45508-65 KWP(j)/T Pc-4 RM

ACCESSION NR: AP5014786

PO/0002/6A/000/004/0153/0161

AUTHOR: Sopiela, Wacław (Master engineer, Director)(Lodz)

TITLE: Institute of Synthetic Fibers

SOURCE: Nauka Polska, no. 4, 1964, 153-161

TOPIC TAGS: chemical research facility, synthetic material

Abstract: The article reports on the activities of the Institute which serves as a field station for the Ministry of Chemical Industry. Its organization and break-down into individual departments is explained first. This is followed by a discussion of the major research projects, namely: development of vitreous silk and cordal silk, which are the two outstanding achievements among a whole series of minor ones. The efforts of the Institute are directed toward the study of viscous fibers, physical and chemical methods of fiber analysis, also fiber processing experiments. Results of research are well documented and made available by publication in: the bimonthly "Biuletyn Informacyjny- Włókna Sztuczne" (Information Bulletin- Synthetic Fibers) and "Przegląd Bibliograficzny-

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L 45508-65

ACCESSION NR: AP5014786

Włókna Sztuczne" (Bibliographical Review- Synthetic Fibers). Patent search is done for the Ministry for the protection of rights. Contacts are maintained with the international textile research community.

ASSOCIATION: Instytut Włókien Sztucznych i Syntetycznych, Łódź (Institute of Synthetic Fibers)

SUBMITTED: 00Jan64

ENCL: 00

SUB CODE: MT, G

NO REF SOV: 000

OTHER: 000

JPRS

Card 2/2 MB



SOPIELA, Wacław

The Research Institute of Artificial and Synthetic Fibers.  
Review Pol Academy 9 no.4:38-41 O-D '64.

1. Director, Institute of Artificial and Synthetic Fibers, Lodz.  
Submitted January 1964.

SOPIELA, W.; KAPECKA, T.; GYPRYK, J.

Effect of acetylation on the properties of polyvinyl alcohol  
fibers. Przegl włokien 18 no.10:445-448 O '64.

-SOPIKOV, M.F.

Method of recording the volume of inspired air. *Fiziol.zhur.*  
42 no.7:604-606 J1 '56. (MLRA 9:10)

1. Tsentral'nyy nauchno-issledovatel'skiy ispytatel'nyy institut  
voennoy meditsiny, Moskva.

(RESPIRATION,

registration of volume of expired air (Rus))

PATRICHENOV, G.A.; SOPIKOV, N.F.

Method of studying the effect of medicinal substances and  
poisons on the phrenodiaphragmal conductivity. Farm. i toks.  
28 no.5:625-626 S-O '65. (MIR: 18:12)

1. Voenno-meditsinskaya ordena Lenina akademiya imeni S.M.  
Kirova, Leningrad. Submitted March 4, 1965.

*Stukalov, K.V.*

*Stukalov, K.V.*

*Stukalov, K.V.*

*N 11/1002*

4766. CONVERSION OF VZ-300 DIESEL TO NATURAL GAS. Stukalov, K.V.  
Sopikov, P.F. and Ivanov, V.A. (Moscow: Gostoptekhzdat, 1951 56pp,  
June 1952, 7-9). A scheme for the conversion of an engine used in Soviet oil fields  
is described. The work, including alterations to valve timing, can  
be done in field workshops. A saving of 73 to 82% of liquid fuel is claimed.

SOPIKOV, P. M.  
Leningrad Inst. for the Advancement of Veteranarians  
"Sarcomatosis of fowl."  
SO: Veterinariia 27(1), 1950, p. 27

SOPIKOV, P.M.

Leningrad Inst. for the Advancement of Vets. and the Leningrad Base of Poultry Breeding.

"The significance of ultraviolet rays in the prophylaxis of the diseases of mineral and vitamin metabolism."

SO: Veterinariya 27(9), 1950, p/ 50

USSR/Biology - Genetics

Nov/Dec 51

"Transmission of Hereditary Characteristics Through Blood Transfusion," P. M. Sopiakov, Leningrad Base, Sci Res Inst of Poultry Breeding

"Agrobiologiya" No 6, pp 121-125

Describes expts on mating hens of a pure strain I1 with roosters of the same pure strain I1, after which the hen received a blood transfusion from a rooster of a different strain I1 a. The progeny exhibited characteristics of both strains. Thus, when I and II were pure white Leghorns and I1a (donor) a black Astrolorp, the mixed strain

20073

USSR/Biology - Genetics  
(Contd)

Nov/Dec 51

was white with black feathers, or had black and white spotted feathers. The phys characteristics of the mixed strain were improved and its resistance to disease (e.g., pullorosis) was increased by the hybridization carried out in this manner. Since 1948, about 1,000 such chickens have been bred. Similar results were obtained on rabbits. Sopiakov advocates experimentation on interspecies and intergenus crossing by this method, so as to achieve ultimately regular crossing between animals thus brought nearer together in phys characteristics.

20073

SOPIKOV, P. M



1. SOPIKOV, P. M.
2. USSR 600
4. Poultry
7. Action of ultraviolet rays on the growth, metabolism of minerals, and resistance to disease of chicks, Trudy NIIP, 22, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

СОФИКОВ, Р. М.

Bolezni ptits (Diseases of birds) Moskva, Sel'khozgiz, 1953.  
227 p. illus., maps., tables.

И/5  
643.261  
.57

~~SPIKOV~~, P. M. and TOLOKONNIKOV, Ye. V.

"On marked changes of the character of the color of the feathers in the offspring of chickens that underwent a transfusion of the blood of another species of fowls."

reported at Conference of Problem of Heredity and Variability, held at  
Institute of Genetics, AS USSR, 8-14 Oct 1957  
Vestnik AN SSSR, 1958, Vol. 28, No. 1, pp. 127-129 (author Kushner, Kh. F.)

83817

S/190/60/002/005/007/015  
B004/B067

2109  
2209

15.8114

AUTHORS: Petrov, K. A., Nifant'yev, E. Ye., Sopikova, I. I.  
TITLE: Phosphorous Polymers. II. Use of the Arbuzov Rearrangement  
for Synthesizing Polyphosphonates  
PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 5.  
pp. 685-688

TEXT: The authors used the Arbuzov reaction for synthesizing polymer phosphinic esters. Polymerization occurs on heating 1 mole of cyclic phosphinites with 0.001 - 0.1 mole of methyl iodide in a sealed tube. Polyphosphinites are formed with a molecular weight of 270 - 3200. The hitherto unknown cyclic phosphinites were obtained by reacting dichlorophosphines with 1,3-diols in the presence of tertiary amines: phenyl-(1,3-butylene) phosphinite and phenyl-(1,3-propylene) phosphinite. The reaction with  $\text{CH}_3\text{I}$  is a recurring alkylation reaction with

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Phosphorous Polymers. II. Use of the  
Arbuzov Rearrangement for Synthesizing  
Polyphosphonates

S/190/60/002/005/007/015  
B004/B067

$$\begin{array}{c} \text{R} \\ \diagup \\ \text{P}=\text{O} \\ \diagdown \\ \text{CH}_3 \end{array} - \text{O} \left[ -(\text{CH}_2)_n - \begin{array}{c} \text{O} \\ \diagup \\ \text{P} \\ \diagdown \\ \text{R} \end{array} - \text{O} \right]_m - (\text{CH}_2)_n - \text{I}$$
 as final product. The structure of the

central member could be proved by cleaving the phenyl-(1,3-butylene) phosphinite polymer by means of phosphorus pentachloride. Phenyl-(1-methyl-3-chloropropyl)phosphinyl chloride was obtained. The results of polymerization of phenyl-(1,3-butylene) phosphinite with various additions of methyl iodide are given in a table. There are 1 table and 2 references: 1 Soviet and 1 US.

SUBMITTED: January 15, 1960

Card 2/2

PETROV, K.A.; NIFANT'YEV, E.Ye.; SOPIKOVA, I.I.; BUDANOV, V.M.

Synthesis of dialkylacyl phosphites and alkylacyl phosphinites.  
Zhur.ob.khim. 31 no.7:2373-2377 J1 '61. (MIRA 14:7)  
(Phosphorous acid) (Phosphinic acid)

SOPIKOVA, I.I.

43

PHASE I BOOK EXPLOITATION

SOV/6034

Konferentsiya po khimii i primeneniyu fosfororganicheskikh soyedineniy. 2d, Kazan', 1959.

Khimiya i primeneniye fosfororganicheskikh soyedineniy; trudy (Chemistry and Use of Organophosphorus Compounds; Conference Transactions) Moscow, Izd-vo AN SSSR, 1962. 630 p. Errata slip inserted. 2800 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Kazanskiy filial.

Resp. Ed.: A. Ye. Arbuzov, Academician; Ed. of Publishing House: L. S. Povarov; Tech. Ed.: S. G. Tikhomirova.

PURPOSE: This collection of conference transactions is intended for chemists, process engineers, physiologists, pharmacists, physicians, veterinarians, and agricultural scientists.

COVERAGE: The transactions include the full texts of most of the scientific papers presented at the Second Conference on the Chemistry and Use of

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Chemistry and the Use of Organophosphorus (Cont.)

SOV/6034

Organophosphorus Compounds held at Kazan' from 2 Nov through 1 Dec 1959. The material is divided into three sections: Chemistry, containing 67 articles; Physiological Activity of Organophosphorus Compounds, containing 26 articles; and Plant Protection, containing 12 articles. The reports reflect the strong interest of Soviet scientists in the chemistry and application of organophosphorus compounds. References accompany individual reports. Short summaries of some of the listed reports have been made and are given below.

TABLE OF CONTENTS: [Abridged]:

Introduction (Academician A. Ye. Arbuzov)

3

TRANSACTIONS OF THE CHEMISTRY SECTION

Geftor, Ye. L. [NII plastmass (Scientific Research Institute of Plastics, Moscow)]. Some Prospects for the Industrial Use of Organophosphorus Compounds

46

Card 2/4



Chemistry and the Use of Organophosphorus (Cont.)

SOV/6034

substituted phosphoric and phosphonic acids, as well as phosphorus-containing catalysts, have been synthesized and studied.

Petrov, K. A., V. A. Parshina, and G. L. Daruze. Phosphorus-Containing Polyester and Polyamide Resins

285

Bis-(p-carboxyphenyl)phosphonic acid, its esters, and salts, as well as amides and chlorides, have been obtained and for the first time described in the scientific literature. Organophosphorus polyesters and polyamides based on ethylene glycol, diethylene glycol, hexamethylenediamine, and bis-(p-carboxyphenyl)phosphonic acid and capable of forming fibers have been obtained and described.

Petrov, K. A., E. Ye. Nifant'yev, and T. I. Sopikova. Application of Arbuzov's Rearrangement to the Synthesis of Polyphosphonates

292

Previously unknown cyclic phenyl phosphonites have been obtained by the interaction of phenyldichlorophosphine with 1,3-glycol. The cyclic phosphonites polymerize under the action of methyl iodide.

Card 7/14

ACCESSION NR: AT4017411

S/0000/63/000/000/0086/0089

AUTHOR: Petrov, K. A.; Nifant'yev, E. Ye.; Sopikova, I. I.; Merkulova, M. I.

TITLE: Phosphorylated polysaccharides. III. Phosphorylation of cellulose by dialkyl-(aryl)phosphites

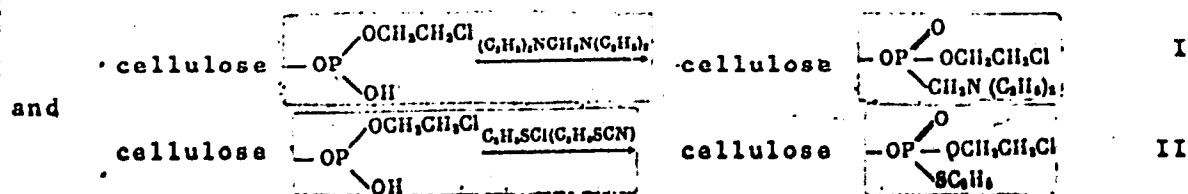
SOURCE: Tsellyuloza i yeye proizvodnyye, sbornik statey (Cellulose and its derivatives). Moscow, 1963, 86-89

TOPIC TAGS: polysaccharide, cellulose, phosphorylated polysaccharide, cellulose phosphorylation, phosphorylation, dialkylphosphite, diarylphosphite

ABSTRACT: On the basis of the authors' previous work, the following studies were conducted: (1) phosphorylation of cellulose by di- $\beta$ -chloroethylphosphite, di- $\beta$ -fluoroethylphosphite, and diphenylphosphite; (2) reaction of cellulose phosphite with tetraethylmethylenediamine; and (3) reactions of cellulose phosphite with chloral, diethyldisulfide, ethylsulfenechloride, and ethylthiocyanate. In the phosphorylation, 0.5 g of cellulose (cotton wool, thread and cord), dehydrated by washing with absolute alcohol, was reacted at 110, 130, 150 or 165C for 30 or 60 hrs. with 25 g of the reagents in a stream of nitrogen at a pressure of 50-60 mm Hg. After removal of the excess phosphite by filtration, the product was washed with methanol and ether and vacuum-dried over  $P_2O_5$ . The A P and Cl content of 4.27-  
Cord 1/3

ACCESSION NR: AT4017411

8.56% and 2.97—9.06%, respectively, was found in the product, obtained from cotton wool, while lower results were achieved with viscose thread and cord. Di-β-chloro- and di-β-fluoroethylphosphites were found to be better suited for the reaction. In the reaction with tetraethylmethylenediamine and disulfides, conversion of cellulose phosphites into α-hydroxy- and α-aminophosphonates and thiophosphates was also accomplished by the reactions



Orig. art. has: 1 table.

ASSOCIATION: none

Card 2/3

ADDITIONAL INFO

SUBMITTED: 12Apr62

ATD PRESS: 3045

ENCL: 00

SUB CODE: OC

NO REF SOV: 006

OTHER: 002

Card— 3/3

ACCESSION NR: AT4017412

S/0000/63/000/000/0090/0093

AUTHOR: Petrov, K. A.; Nifant'yev, E. Ye.; Sopikova, I. I.; Belavintsev, M. A.

TITLE: Phosphorylated polysaccharides. IV. A method for phosphorylating cellulose using phosphorous acid

SOURCE: Tsellyuloza i yeye proizvodny\*ye, sbornik statey (Cellulose and its derivatives). Moscow, 1963, 90-93

TOPIC TAGS: polysaccharide, polysaccharide phosphorylation, cellulose, cellulose phosphate, phosphocellulose, phosphorylation

ABSTRACT: Cellulose was phosphorylated by phosphorous acid using 3 different procedures: (1) reacting cellulose and molten phosphorous acid at 100C for 10 hours in a current of dry nitrogen, yielding a product containing 15-17% P; (2) in dimethylformamide or o-xylene solutions in a series of 20 to 60-hour tests at 130 and 160C yielding a product containing 4.8-12.2% P; (3) prolonged (2-3 days) heating at 80-140C in an atmosphere of an inert gas, which proved to be the most suitable since it yielded products containing up to 14% P. Different kinds of cellulose were tested, and the one swollen in water or pyridine was found best. The P-content in the product increased with the concentration of phosphorous acid up to a certain limit, the optimal ratio being one in which there is slightly more than

Card 1/2

ACCESSION NR: AT4017412

one phosphorous acid molecule for each  $\beta$ , d-glucose unit in the reacting mixture.  
Orig. art. has: 2 graphs and 1 table.

ASSOCIATION: none

SUBMITTED: 12Jul62

DATE ACQ: 06Jan64

ENCL: 00

SUB CODE: CH

NO REF SOV: 006

OTHER: 003

Card 2/2

L 17550-63 EWP(j)/EPF(c)/EWT(m)/BDS Pc-4/Pr-4 RM/KW  
 S/0020/63/151/004/0859/0861  
 ACCESSION NR: AP3004425  
 AUTHORS: Petrov, K. A.; Nifant'yev, E. Ye.; Sopikova, I. I. 63  
 TITLE: Phosphorylation with acylphosphites.  
 SOURCE: AN SSSR. Doklady\*, v. 151, no. 4, 1963, 859-861  
 TOPIC TAGS: phosphorylation, acylphosphite, alcohol, acid phosphonate  
 ABSTRACT: The purpose of this work was to develop new methods for phosphorylating hydroxyl compounds. Tribenzoylphosphite and butylene-1,3-acetylphosphite were used at relatively low temperatures in the presence of triethylamine. Tertiary phosphites were formed in high yields with primary, secondary, and tertiary alcohols and with acid phosphonates such as the monopropyl ester of methylphosphinic acid. They can also be used for phosphorylating carbohydrates and other natural products. The reaction of these acylphosphites with phosphoxanthogenates produced thiophosphates and other sulfur-containing compounds. These phosphorylating agents can be obtained readily by reacting  $\text{PCl}_3$  or butylene-1,3-chlorophosphite with metallic salts of the corresponding carboxylic acid. Phosphoxanthogenates were produced by reacting  $\text{PCl}_3$  and chlorophosphines with salts of alkylxanthogenic acids. Syntheses of the following are described: tributylphosphite; 1,3-butylenebutylphosphite; 1,3-butyleneisopropylphosphite; 1,3-butylene-tert.butylphosphite;  
 Card 1/2

L 17550-63

ACCESSION NR: AP3004425

and 0,0-1,3-butylene-0-propylmethylsubphosphonate. The preparation of tri-Alpha-furoylphosphite is also described. The original article has 3 formulas.

ASSOCIATION: none

SUBMITTED: 26Jan63

DATE ACQ: 21Aug63

ENCL: 00

SUB CODE: CH

NO REF SOV: 008

OTHER: 004

Card 2/2



PETROV, K.A.; NIFANT'YEV, E.Ye.; SOPIKOVA, I.I.; LEVITAN, I.P.

Synthesis and some properties of dialkylcyclohexyl phosphates.  
Zhur.prikl.khim. 37 no. 5:1132-1135 My '64. (MIRA 17:7)

L 8946-66 ENT(m)/ENP(j), I/ETC(m) 44, 44

ACC NR: AP5026522

SOURCE CODE: UR/0286/65/000/019/0066/0066

AUTHORS: Petrov, K. A.<sup>44</sup> Sopikova, I. I.<sup>44</sup>

ORG: none

TITLE: Method for fireproofing woody materials, such as sawdust. Class 38, No. 17521<sup>15</sup>  
[announced by Military Academy for Chemical Defense (Voyennaya akademiya khimicheskoy zashchity)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 19, 1965, 66

TOPIC TAGS: fireproofing, sawdust, phosphoric acid, ester, wood product

ABSTRACT: This Author Certificate presents a method for fireproofing <sup>15</sup>woody materials, such as sawdust, by treating them in the dry state with phosphorus-containing substances. To increase the degree of fireproofing, the sawdust is kept immersed for 24 hours at room temperature in anhydrides of alkyl (aryl) phosphorous acids or ester anhydrides of phosphoric acid. Prior to immersion, the phosphor-containing compounds are heated to 70--80C. The treated sawdust is then heated for 20--40 min at 130--160C, filtered, washed with hot dimethylformamide, and dried.

SUB CODE: 07/ SUBM DATE: 31Jul64

Card 1/1 (u)

UDC: 674.049.3

(A) L 8865-66 EWT(m)/ETC/ENG(m)/EWP(j)/T/ETC(m) DS/WW/RM

ACC NR: AP5025953

SOURCE CODE: UR/0190/65/007/010/1667/1669

AUTHOR: Petrov, K. A.; Sopikova, I. I.; Nifant'yev, E. Ye.

ORG: None

TITLE: Phosphorylation of polysaccharides. Phosphorylation of cellulose with alkyl(aryl)phosphinic anhydrides

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 10, 1965, 1667-1669

TOPIC TAGS: phosphorylation, cellulose, cellulose plastic, organic phosphorus compound, phosphinic acid, ion exchange resin, heat resistant material

ABSTRACT: A new method of phosphorylating cellulose with alkyl(aryl) phosphinic anhydrides gave alkyl(aryl)cellulose phosphonates with potential as ion exchange or fire-resistant materials. Cellulose was reacted with methyl- or phenylphosphinic anhydride to form acid methyl(phenyl)cellulose phosphonates heretofore not described in the literature. Products containing a maximum of

UDC: 661.728.87

Card 1/2

L 8865-66

ACC NR: AP5025953

about 10% phosphorus were obtained by reaction at 130-140° using 3-5 moles of anhydride for each alpha-d-glucose chain. The cellulose phosphonates are not distinguishable externally from the initial cellulose; they are incombustible when they contain about 4% or more of phosphorus. Orig. art. has: 1 table and 1 equation.

SUB CODE: OC SUBM DATE: 05Oct64/ ORIG REF: 005/ OTH REF: 001

PC  
Card 2/2

BEKTUROV, A.B., akademik; TIEHONOV, V.V., kand. tekhn. nauk; ESIK, V.K.;  
SOPILADI, V.N.

Concentrated fertilizer of the calcium metaphosphate type produced  
from the Karatau phosphorites. Vest. AN Kazakh. SSR 21 no.12:6-14  
D '65. (MIRA 18:12)

1. Akademiya nauk Kazakhskoy SSR (for Bekturov).

GERSHUN, N.O.; RADYNSKAYA, S.M.; SOPIL'NICHENKO, L.Ye.; SHUSTOV, A.M.

Further improvement of the bonus wage system in the shoe industry.  
Kozh.-obuv.prom. 6 no.1:22-26 Ja '64. (MIRA 17:4)

SOPIL'NIK, A.Yu. (g. Stanislav (obl.), ul. Kasprivka, 38/1)

Evaluation of the functional sufficiency of gastric collaterals  
based upon the dynamics of its periodic and evacuatory activity.  
Arkh.anat.gist.i embr. 37 no.11:90-96 N '59. (MIRA 13:4)

1. Kafedra normal'noy anatomii (zaveduyushchiy - prof. Ye.P.  
Mel'man) i kafedra normal'noy fiziologii (zaveduyushchiy - dotsent  
V.S. Raytses) Stanislavskogo meditsinskogo instituta.  
(STOMACH blood supply)

SOPIL'NIK, A.Yu. [Sopil'nyk, A.IU.]

Adaptation of the gastric collaterals in conditions of  
disturbed blood circulation. Dop. AN USSR no.8:1081-1086  
'61. (MIRA 14:9)

1. Stanislavskiy meditsinskiy institut. Predstavleno  
akademikom AN USSR V.G. Kas'yanenko [Kas'ianenko, V.H.].  
(Gastroenterology)  
(Blood--Circulation, Disorders of)



SOPIL'NIK, A.Yu. (Stanislav)

Periodic motor activity of the stomach in collateral circulation.  
Pat.fiziol.i eksp.terap. 6 no.2:58-62 Mr-Apr '62. (MIRA 15:8)

1. Iz kafedry normal'noy fiziologii (zav. - dotsent V.S.Raytses)  
i kafedry normal'noy anatomii (zav. - prof. Ye.P.Mel'man) Stanislav-  
skogo meditsinskogo instituta.

(~~STOMACH~~-BLOOD SUPPLY)

SOPIL'NIK, A.Yu.

State of the evacuatory action of the stomach following  
experimental interruption of the blood supply. Biul.eksp.  
biol. i med. 55 no.1:48-52 Ja'53. (MIRA 16:7)

1. Iz kafedry normal'noy anatomii (zav. - prof. Ye.P.Mel'man)  
i kafedry normal'noy fiziologii (zav. - dotsent V.S. Raytses)  
Stanislavskogo meditsinskogo instituta. Predstavlena deystvi-  
tel'nym chlenom AMN SSSR A.V.Lebedinskim.  
(GASTROINTESTINAL MOTILITY)  
(STOMACH—BLOOD SUPPLY)

MEL'MAN, Ye.P.; RAYTSES, V.S.; SOPIL'NIK, A.Yu.

Röntgenological data on the evacuating motor activity of the stomach in an experimental disorder of blood circulation.

Vrach. delo no.2:23-30 F'64

(MIRA 17:4)

1. Kafedra normal'noy anatomii (zav. - prof. Ye.P. Mel'man)  
i kafedra normal'noy fiziologii (zav. - dotsent V.S. Raytses)  
Ivano-Frankovskogo meditsinskogo instituta.

AVIOSOR, M.L.; ROBER, I.P.; MEL'MAN, Ye.P.; SOPIL'NIK, A.Yu.

Relation of the degree of experimental disorders of the arterial supply of the liver to peripheral blood proteins. Pat. fiziol. i eksp. terap. 8 no.4:42-47 J1-Ag '64. (MIRA 18:2)

1. Kafedra fakul'tetskoy terapii (zav.- prof. M.L. Aviosor)  
i kafedra normal'noy anatomii (zav.- prof. Ye.P. Mel'man)  
Ivanovo-Frankovskogo meditsinskogo instituta.

MEL'NAN, Ye.F.; SOPIL'NIK, A.Yu.; AVIOSOR, M.L.; BOBER, I.F.

Structural changes in the arterial bed of the dog liver and dynamics of some of its functional indices in experimental ischemia. Arkh. anat., gist. i embr. 47 no.10:23-35 0 '64.

(MIRA 18:6)

1. Kafedra normal'noy anatomii (zav. - prof. Ye.F.Mel'nan) i kafedra fakul'tetskoy terapii (zav. - prof. M.L.Aviosor) Ivano-Frankovskogo meditsinskogo instituta.

NEYKO, Ye.M., ROZIL'NIK, I.Yu.

Changes in liver function in peritonitis during disorders of  
its arterialization. Pat. fiziol. i eksp. terap. 9 no.3:  
61-63 My-Je '65. (MIRA 18:9)

1. Kafedra patologicheskoy fiziologii (zav.- doktor med. nauk  
S.M. Mints) i kafedra normal'noy anatomii (zav.- prof. Ye.P.  
Mel'man) Ivano-Frankovskogo meditsinskogo instituta.

SOPIL'NIK, A.Yu.

State of the venous bed and evacuatory-motor activity of the stomach  
in the experimental disturbance of blood circulation. Arkh. anat., gist.  
i embr. 48 no.6:37-43 Je '65. (MIRA 18:7)

1. Kafedra normal'noy anatomii (zav. - prof. Ye.P.Mel'man) Ivano-  
Frankovskogo meditsinskogo instituta.

SOPIL'NIK, A.Ye., SOPIL'NIK, V.M.; SOLODKAYA, M.A.

Interrelation between the state of blood supply and the evacuation-motor function of the duodenum under the conditions of collateral blood flow. Arkh.anat., gist. 1 embr. 49 no.10:22-26 0 '65. (MIRA 18:12)

1. Kafedra normal'noy anatomii (zav. - prof. Ye.P.Mal'man)  
Ivano-Frankovskogo meditsinskogo instituta. Submitted Jan. 18, 1965.



COPILOV, A.Yu.; COPILOV, V.M.; SOLODKAYA, M.A.

Interrelation between the state of blood supply and the evacuation-motor function of the duodenum under the conditions of collateral blood flow. Arkh.anat., gist. 1 embr. 49 no.10:22-26 0 '65. (MIRA 18:12)

1. Kafedra normal'noy anatomii (zav. - prof. Ye.P.Mel'man)  
Ivano-Frankovskogo meditsinskogo instituta. Submitted Jan. 18, 1965.

SECRET, 10/10/1981, 10/10/1981, 10/10/1981, 10/10/1981.

Organization: 10/10/1981, 10/10/1981, 10/10/1981, 10/10/1981  
Republic: 10/10/1981, 10/10/1981, 10/10/1981, 10/10/1981.

(MIRA 17:14)

1. SOPILONIAK, H. G.
2. USSR (600)
4. Lips-Cancer
7. Short-focus roentgenotherapy of ulcerative and infiltrating forms of cancer of the lower lip. Vest. rent. 1 rad. no. 1, 1953

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

SOPIL'NYAK, M.G.; PAMPE, V.E., glavnyy vrach.

Results of short focus X-ray therapy of pre-cancerous changes in the lower lip. Vest.rent.i rad. no.3:59-62 My-Je '53. (MLRA 6:8)

1. Respublikanskiy onkologicheskiy dispanser Ministerstva zdavookhraneniya Latvyskoy SSR. (Lips--Cancer) (X-rays--Therapeutic use)

SOPIL'NYAK, M. G.

USSR/Medicine - Roentgenology

FD-099

Card 1/1 : Pub 132 5/22

Author : Sopil'nyak, M. G.

Title : Short focus X-ray therapy of relapses in cancer of the lower lip

Periodical : Vest. Rant. 1 Rad. 26-30, May/June 1954

Abstract : Short focus X-ray therapy is a simple and effective means of treating local relapses in cancer of the lower lip. X-ray resistant forms of cancer of the lower lip were found in 2% of the patients. Three tables. Sixteen references; all USSR.

Institution : Republic Oncological Dispensary, Latvian SSR (Head Physician, V. E. Pampe), Riga

Submitted : Presented on Nov 10, 1952 at the meeting of the Republic Surgical Society, Latvian SSR

SOPIL'NYAK, M.G.

Result of close-focus roentgenotherapy of skin cancer. Vop.onk. 1  
no.2:66-72 '55. (MLRA 8:10)

1. Iz Respublikanskogo onkologicheskogo dispansera (glav.vrach.  
M.G.Sopil'nyak) Ministerstva zdravookhraneniya Latvyskoy SSSR.  
(SKIN, neoplasms,  
ther.,x-ray, close-focus technic)  
(RADIOTHERAPY, in various diseases,  
cancer of skin, close-focus technic)

SOPIL'NYAK, M.G.

Diagnosis and therapy of antral rigid gastritis. Vopr.klin.lech.  
zlok. novobraz., Riga. 2:187-197 1955.

1. Respublikanskiy onkologicheskiy dispanser Latvyskoy SSR  
(glavvrach - M.G. Sopil'nyak).

(GASTRITIS,

antral rigid gastritis, diag. & ther. (Rus))

SOPIL'NYAK, M.G.

Short-focus roentgenotherapy of cancer of the eyelids. Vest.  
rent. i rad. no.3:32-38 My-Je '55. (MLRA 8:10)

1. Iz Respublikanskogo onkologicheskogo dispansera (glavnyy  
vrach V.E.Pampe) Ministerstva zdavookhraneniya Latvyskoy SSR.  
(EYELIDS, neoplasms,  
ther.x-ray short-focus technic)  
(RADIOTHERAPY; in various diseases,  
cancer of eyelids, short-focus technic)



EXCERPTA MEDICA Sec 16 Vol 7/9 Cancer Sept 59

3992. **Preoperative roentgen treatment of breast cancer (Russian text)**  
SOPILNIAK M. G. Republican Oncol. Disp. Riga, Latvia *Vopr. Onkol.* 1958, 4/5  
(584-589) Tables 4

An analysis of the results of treatment in 365 cases of cancer of the breast; 236 patients were treated more than 5 yr. ago. The 5-year survival rate was 88.8% for stage I, 50.8% for stage II, and 25.4% for stage III. Preoperative X-ray treatment, radical mastectomy, and postoperative irradiation gave lasting cure in 49.6% of cases. Partial resection and roentgen treatment (15 cases only) cured 60% of patients. Simple amputation and roentgen treatment resulted in 15.8% of cured cases. Roentgen therapy only had a 5-year survival of 19%.

SOPIL'NYAK, M.G., Cand. Med Sci -- (diss) "Close-<sup>ness</sup>~~ness~~  
X-ray therapy <sup>of</sup> pretumorous diseases and cancer of the  
lower lip." Riga, 1959, 19 pp (Acad Sci Latvian SSR. Inst  
of Experimental Medicine) 220 copies (KL, 33-59, 12)

- 73 -

SOPIL'NYAK, M.G. (Riga, Maza Nometnyu, 7, kv.5)

Treatment of lower lip cancer metastases. Vop.onk. 5 no.6:706-710 '59.  
(MIRA 12:12)

1. Iz Respublikanskogo onkologicheskogo dispansera Ministerstva zdra-  
vookhraneniya Latvyskoy SSR.

(LIP, neoplasms

metastatic, surg. & ther. (Rus))

SOPIL'NYAK, M. G.

Close focus roentgenotherapy of pre-neoplastic diseases of the skin,  
lips and oral cavity. Vop. klin. lech. zlok. novoobraz. 7:225-230  
'61.

1. Respublikanskiy onkologicheskoy dispensar Ministerstva zdravoo-  
khraneniya Latvyskoy SSR (glavnyy vrach M. G. Sopil'nyak).

(SKIN NEOPLASMS radiother) (MOUTH neopl)  
(LIPS neopl)

SOPIL'NYAK, M.G. (Riga-2, Malaya Lagermaya, 7, kv.5)

Late results of short range radiotherapy in cancer of the  
external tegument. Vopr. onk. 9 no.4:99-103 '63. (MIRA 17:9)

1. Iz Respublikanskogo onkologicheskogo dispansera Ministerstva  
zdravookhraneniya Latvyskoy SSR (glavnyy vrach - M.G.Sopil'nyak).

SOPIL'NYAK, M.M.

USSR.

✓ Treating seed with solutions of microelements prior to planting. A. O. Mikhailovskii and M. M. Sopil'nyak. *Zemledelia* 2, No. 7, 49-50 (1954); cf. C.A. 47, 7143. CuSO<sub>4</sub> 0.01% and 0.05% MnSO<sub>4</sub> solns. applied to grain, at a rate of 33 l./100 kg. of grain seed, stimulated germination, with the Mn being slightly more effective than the Cu. Length of rootlets after the first few days of growth was stimulated considerably by the Mn, but Cu had practically no effect. MnSO<sub>4</sub> at a concn. of 0.05% was more effective than at 0.01%. Tillering and quantity of sugars, prior to entering the dormant winter season, was higher in the Cu- and Mn-treated plants. Chlorophyll content during winter, spring, and summer was higher in Cu- and Mn-treated plants. There was no change in the osmotic pressure of the cell sap in the seed-treated plants. Viscosity of the cell plasma increased and H<sub>2</sub>O content decreased on seed-treated plants prior to entering the dormant winter season. This condition increases resistance against frost injury. Loss of plants because of winter killing was 65% in the pots of the nontreated plants, 16.7% in the Cu-, and 19.6% in the Mn-treated wheat seed. In field expts. covering 6 ha. the yield of the control area was 17.5 centners/ha.; the CuSO<sub>4</sub>-treated seed gave 20.8 centners/ha. S. I.

SOPIL'NYAK, M.M. Cand Agr Sci -- (diss) "The influence of predecessors upon the conditions of cultivation, <sup>yield</sup> ~~harvest~~, and quality of <sup>yield</sup> ~~harvest~~ of ~~the~~ winter ~~wheat~~ wheat in the <sup>Podessye zone</sup> ~~area~~ of the Ukrainian SSR." Kiev, 1958. 17 pp. (Min Agr UkSSR. Ukrainian Acad Agr Sci). 100 copies. (KL, 8-58, 107)

-47-

SOPIL'NYAK, M.M., assistant

Effect of preceding crops on the growing conditions and yeild of  
winter wheat in the Ukrainian Polesye. Nauch. trudy UASHN 10:31-39  
'60. (MIRA 14:3)

(Polesye--Wheat)

(Rotation of crops)



MANOYLENKO, Yu.P. [Manoilenko, IU.P.], kand. sel'skokhoz. nauk;  
SOPIL'NYAK, M.M., kand. sel'skokhoz. nauk

Measures for increasing the yield and quality of winter wheat.  
Nauk. pratsi UASHN 17 no.12:3-7 '60. (MIRA 16:7)

(Ukraine--Wheat)

MELENT'YEV, I. P., head. Address: ZOLOTCH, V. I. inzh.: SOPIN, V. I.

Field testing of rails. Trudy TSNII MPS no. 292:54-78 '65.

(MIRA 28:10)

KARAKIN, F.F.; RODICHEV, A.F.; PUTIY, G.P.; BASOV, A.P.; PYATAKOV, L.V.; RAUTSEP, A.P. [Rautsepp, A.]; BLAGONRAVOV, S.I.; GRECHIKHO, A.M.; DRUZHININ, N.N.; SHUKHMAN, D.I.; BAUSIN, A.F.; LOYKO, P.G.; CHERNAKOV, B.A.; SHORNIKOV, F.M.; SOPIN, P.F.

Remarks of the members of the Conference. Torf. prom. 37 no.5:  
22-28 '60. (MIRA 14:10)

1. Ivanovskiy gosudarstvennyy torfotrest (for Karakin).
2. Sverdlovskiy torfotrest (for Rodichev).
3. Gosplan USSR (for Putiy).
4. Leningradskiy gosudarstvennyy trest torfyanoy promyshlennosti (for Basov).
5. Moskovskiy oblastnoy sovnarkhoz (for Pyatakov).
6. Gosudarstvennyy nauchno-tekhnicheskii komitet Estonskoy SSR (for Rautsep).
7. Ger'kovskiy sovnarkhoz (for Blagonravov).
8. Belorusskiy sovnarkhoz (for Grechikho, Shukhman).
9. Yaroslavskiy sovnarkhoz (for Druzhinin).
10. Bobruyskaya mashinno-meliorativnaya stantsiya (for Loyko).
11. Gipromestprom Gosplana RSFSR (for Chernakov).
12. Mezhholkhozhnoye torfopredpriyatiye "Volosovskoye" Leningradskoy oblasti (for Shornikov).
13. Vsesoyuznyy nauchno-issledovatel'skiy institut torfyanoy promyshlennosti (for Sopin).  
(peat industry)

VEYSBRUT, L.A.; SOPIN, P.F., kand. tekhn. nauk; ZASOSOV, M.V.;  
SOKOLOVA, S.L.

Combining the oxidation and regeneration of the oxidant in  
the production of oxalic acid. Trudy VNIITP no.18:213-220  
'61. (MIRA 17:1)

SOPIN, P.F., kand. tekhn. nauk

Use of the hydrolysis of upland peat by diluted mineral acids for the production of oxalic acid, ethyl alcohol and other products. Trudy VNIITP no.18:220-231 '61.  
(MIRA 17:1)

SCPIN, P. F.

"Extracting chemicals from peat combined with its artificial dewatering."

Report submitted for the 2nd International Peat Congress, Leningrad,  
15-22 Aug 63.

PETROV, V.; SOPIN, V.; AUNAPU, F., prof.

Regional economic councils are searching for hidden potentialities.  
Sots. trud 7 no.9:11-26 S '62. (MIRA 15:9)

1. Nachal'nik otdela truda i zarabotnoy platy Sverdlovskogo  
soveta narodnogo khozyaystva (for Petrov). 2. Nachal'nik  
otdela truda i zarabotnoy platy Bashkirskogo soveta narodnogo  
khozyaystva (for Sopin). 3. Altayskiy politekhnicheskiy institut  
(for Aunapu).

(Industrial management)

SOPIN, V.

Mass application of the method of intermittent observations in the  
machinery manufacturing enterprises of an economic region. Sots.  
trud 6 no. 4:86-91 Ap '61. (MIRA 16:7)  
(Bashkiria--Machinery industry) (Time study)



MASHINSKIY, Iosif Aronovich, inzhener; SOPIN, Vsevolod Ivanovich, kandidat  
tekhnicheskikh nauk; KURASHEV, V.A., redaktor; LOZBYAKOVA, Ye.S.,  
vedushchiy redaktor; SHIKIN, S.T., tekhnicheskiy redaktor

[Manual for norm setters in oil refineries] Spravochnik normirov-  
shchika na neftepererabatyvaiushchikh zavodakh. Moskva, Gos. nauchno-  
tekh. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1956. 202 p.

(MLRA 10:1)

(Petroleum--Refining--Production standards)

SOPIN, V.

Manual for the rating of equipment ("Manual for the rating of machine tools" by N.Savos'kin, B.Shaskol'skii. Reviewed by V. Sopin). Sots.trud no.6:151-153 Je '57. (MIRA 10:7)  
(Machine tools) (Savos'kin, N.) (Shaskol'skiy, B.)

SOPIN, V.

Research on work norms in an economic region. Sots. trud no.12:91-94  
D '57. (MIRA 11:1)

(Production standards)

MASHINSKIY, Iosif Aronovich, kand. ekon. nauk; SOPIN, Vsevolod  
Ivanovich, kand. tekhn. nauk; KURASHOV, V.A., red.;  
LEVINA, Ye.S., ved. red.; STAROSTINA, L.D., tekhn.red.

[Technical standards and wages in petroleum refinery and  
petroleum chemical plants] Tekhnicheskoe normirovanie i  
zarabotnaia plata na neftepererabatyvaiushchikh i nefte-  
khimicheskikh predpriatiakh; spravochnaia kniga. 2.,  
dop. i perer. izd. Moskva, Gostoptekhizdat, 1963. 232 p.  
(MIRA 16:10)

(Petroleum refineries--Production standards)  
(Wages--Petroleum workers) (Petroleum chemicals)

BAGRYANSKI, K.V., kandidat tekhnicheskikh nauk; KRAMCHANINOV, I.M., inzhener;  
KASSOV, D.S., inzhener; SOPIN, V.T., inzhener

Automatic hard facing of blooming mill rolls. Svar. proizv. no.5:20-  
23 My '55. (MIRA 8:9)  
(Hard facing)

S-71A, V. 1.  
SUBJECT: USSR/Welding

135-2-4/12

AUTHORS: Bagryanskiy, K.V., Candidate of Technical Sciences; Sopin, V.T. engineer; and Kramchaninov, I.M., engineer.

TITLE: Automatic surfacing of rolling mill rollers under ceramic fluxes. (Avtomaticheskaya naplavka valkov prokatnykh stanov pod keramicheskimi flyusami).

PERIODICAL: "Svarochnoye Proizvodstvo", 1957, # 2, pp 13-15 (USSR).

ABSTRACT: Practical experience in re-surfacing worn rolling mill - rollers in the metallurgical plant "Azovstal'".

Surfacing is performed on a lathe adapted for the process by adding a reductor to slow down revolving, and installing on one of the lathe carriages the welding head on a bracket. The additional reductor keeps the revolving roll in the speed range of 18-30 m/hr. The bracket carrying the welding head is turnable a full circle and so does not interfere when the roll is installed in the lathe. The capacity of the flux container and the welding wire container allow 9 hours of continuous work. Pre-heating the work surface is done by two gas-air torches made of a tube and bent in conformity with the roll surface.

Card 1/4

TITLE:

Automatic surfacing of rolling mill rollers under ceramic fluxes. (Avtomaticheskaya naplavka valkov prokatnykh stanov pod keramicheskimi flyusami). 135-2-4/12

base metal (steel 55 x ) - 0.5 C, 1.10 Cr, 0.51 Mn, 0.18 Si, 0.1 Ni, 0.03 S, 0.03 P.

Hardness of coating is easily controlled by replacing ferrochromium Xp-6 by other ferrochromium grades, as Xp-4, Xp-1, Xp-00, which have different carbon content, or by increasing the graphite content in the flux. Higher carbon content in the flux not only increases the carbon content in coating metal but also is conducive to better transition of alloying elements from the flux into the coating metal.

Laboratory inspection did not discover any material influence of arc voltage on the composition of coating. For this laboratory test, the welds were made on the machine AAC-1000-2, with 28-36V and 550A, welding wire CB-08 of 5 mm diameter, and the flux XC-320.

The roller coating obtained in the plant by the described technology is of uniform composition and hardness, shows uniform wear in service. It is not necessary to re-dry the flux which is kept in open cases under a shed. In general,

Card 3/4

BAGHYANSKIY, K.V., kand.tekhn.nauk; DOBROTINA, Z.A., kand.tekhn.nauk;  
SOPIN, V.T., inzh.; KAL'YANOV, V.N., inzh.

Effect of operating conditions on the chemical composition of  
metals deposited under a ZhS-type ceramic flux. Svar.proisv.  
no.8:20-22 Ag '60. (MIRA 13:7)

1. Zhdanovskiy metallurgicheskiy institut.  
(Hard facing) (Flux(Metallurgy))



SOPIN, Ye. D.

Carbonic Acid Anhydrase

Effect of some factors on the activity of carbonic anhydrase. Nauk.zap.Kyiv.un. 9  
no.7:169-174 '50.

Monthly List of Russian Accessions, Library of Congress, July 1952. Unclassified

Chemical Abstracts  
May 25, 1954  
Foods

(2)  
V The carbonic anhydrase activity. B. F. Sopin (T. G. Shevchenko State Univ., Kiev). *Ukrain. Biokhim. Zhur.* 10, 371-7 (in Russian, 378) (1948).—In pigeons, which suffered from a B<sub>1</sub>-avitaminosis, as from starvation, and in Siberian marmots in different stages of artificial or natural hibernation, the carbonic anhydrase activity was measured. It was found that the 2 activities change, but the changes do not correspond to each other, thus, e.g., in a pigeon the hydrating activity might show a large increase at a time when the dehydrating activity shows a very small change only. Werner Jacobson

SOPIN, E. F.

Thiamine and diphosphothiamine in animals under different types of starvation. E. F. Sopin (T. G. Shevchenko State Univ., Kiev). *Ukrain. Biokhim. Zhur.* 22, 78-83 (83-4, in Russian) (1974).—Continued caloric starvation of pigeons results in decreased diphosphothiamine content of the tissues, while thiamine increases somewhat. The extent of thiamine and diphosphothiamine decrease in tissues during vitamin B<sub>1</sub> deficiency was detd. by fluorescence. During caloric starvation, a single introduction of thiamine resulted in a decreased diphosphothiamine content, while thiamine increased somewhat in the same time. During the hibernation of animals, thiamine and diphosphothiamine contents decrease noticeably. Clayton F. Holcway

SOPIN, E.F.

MD ✓ The effect of some antibiotics on the metabolic processes.  
B. F. Sopin and L. K. Dyl. *Naukovy Zapiski Kims'k.*  
*Univ. 12, No. 7, 153-5(1953); Referat. Zhur. Khim., Biol.*  
*Khim. 1955, No. 9284.*—A study was made of the effect of  
penicillin, streptomycin, gramicidin, and leutidin on indi-  
vidual phases of the carbohydrate metabolism in the liver of  
mice and of rabbits. Leutidin and streptomycin lower the  
phosphorylase activity of the liver and muscles, and penicil-  
lin and gramicidin have practically no effect on this enzyme.  
B. S. Levine

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